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ABSTRACT

This annotated bibliography contains selected references to 202 recently published articles and books on the subject of research utilization. Criteria for inclusion in the bibliography are discussed, as well as disciplines and specialties which contribute to the subject of research utilization, a core collection on research utilization which can be derived from the bibliography, "grandfathers" in the field, and 15 generally accepted propositions related to the utilization of research findings. (SP)

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RESEARCH UTILIZATION:

AN ANNOTATED BIBLIOGRAPHY

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RESEARCH UTILIZATION BIBLIOGRAPHY PREFACE

This bibliography was prepared for a conference to be held at Stanford University during the summer of 1970 on Research Utilization. Emphasis will focus on the educational dimensions of the problem. Other bibliographies, suggestions by members of the Institute for Communication Research at Stanford, and a computerized search of the complete ERIC collection have all been used in collecting these references. Thousands of articles and titles have been screened for possible inclusion.

CRITERIA

Articles and books were chosen to be included in this bibliography for their relevance and intrinsic value regarding the topic of applying research findings. One additional criterion was also used. It is made possible in part by the existence of ERIC and the related Educational Document Reproduction Service. We sought and were able to obtain hard copy reprints of every article and book annotated. Although this criterion is a limiting one necessitating the exclusion of several references apparently worthy of inclusion, it was felt to be important. A bibliography full of difficult-to-obtain material was thought to be little better than no bibliography at all.

The number of entries was restricted to the 200 "best" ones with the hope that the resulting bibliography will not deter prospective readers by its sheer size alone. Although the annotations themselves were written objectively, it must be recognized that some personal judgement and evaluation were exercised at the time that references were chosen to be included. The restriction to just 200 entries only served to aggravate this condition.

CONTRIBUTING DISCIPLINES AND SPECIALITIES

Research utilization is one of the most complex fields of applied behavioral science. All behavioral disciplines contribute to our understanding of how research knowledge is produced, organized and stored, disseminated, received and responded to. A study of research utilization encompasses all these areas. Psychology, social psychology, sociology, anthropology, economics and political science all have something to say relating to this topic. Subdisciplines and research foci within each of these fields of study impinge directly on research utilization. Figure 1 shows some of these areas that appeared repeatedly in our survey of the literature.

VANTAGE POINT

The emphasis here is on the phenomenon of utilization. A number of words are sufficiently synonymous to be used interchangeably with the word "research" such as "knowledge utiliza-

DISCIPLINES AND FIELDS OF STUDY BEARING UPON RESEARCH UTILIZATION
(Clock Chart)

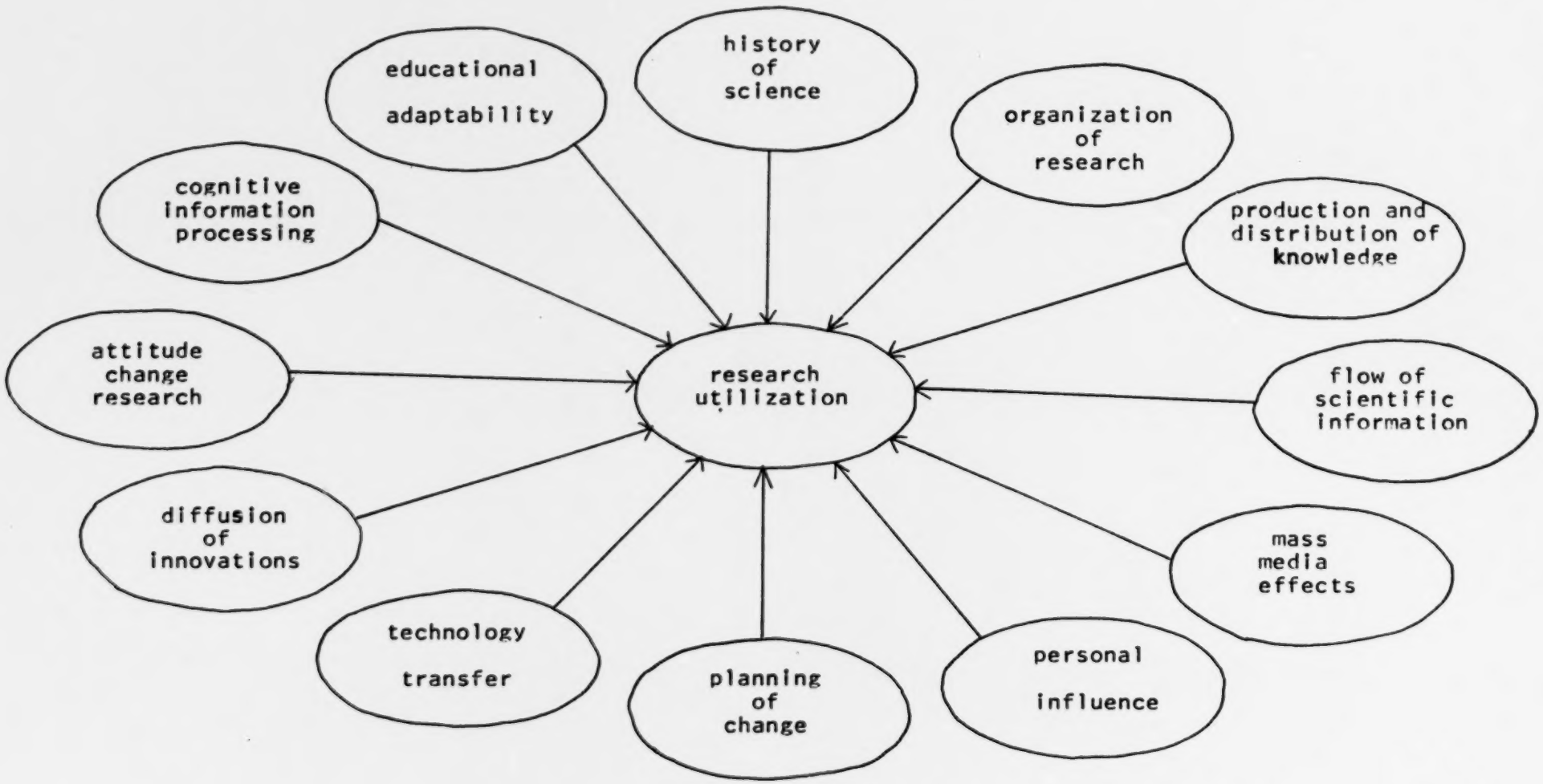

Figure 1

tion" or "information utilization." Research is just one means by which facts can be derived, and as a means of acquiring information it is relatively unimportant to the utilization or application of that information. The approach taken here is very user oriented. By looking back up the line from the vantage point of the receiver of information, that is, back up the flow of information from the point of its application to its origin, possible changes can be sought at every step (focus of research, operationalization, presentation and packaging of results, dissemination) which will be most helpful in achieving maximal utilization. This is not a project concerned with research utilization or RESEARCH utilization, but rather research UTILIZATION.

A CORE COLLECTION

Despite the fact that this bibliography contains 200 entries, a basic core reference shelf can be started on this topic with just 15 books and journals.* Individual articles and chapters from edited collections have been annotated separately here because single annotations for such volumes would be meaningless. Over 45 percent of the entries contained in this bibliography are found in just 15 volumes. For a modest investment of time and money, an individual can become acquainted with the litera-

*These 15 books and journals represent a vital and necessary collection for anyone in a linking role between educational research and practice because they contain basic thinking on the functioning of this role.

ture of this field using these books. There are ten books and five journal issues in the following list.

Bennis, Walter G., Benne, Kenneth D., & Chin, Robert (Editors)
The Planning of Change.
New York; Holt, Rinehart and Winston, Inc.,
Second Edition, 1969

Blanke, Virgil E. (Issue Editor)
Theory Into Practice.
Volume 5, Number 1, 1966

Carlson, Richard C. (Editor)
Change Process in the Public Schools
Eugene, Oregon; Center for the Advanced Study
of Educational Administration, 1965

Clark, David L. (Issue Editor)
Theory Into Practice.
Volume 1, Number 2, 1962

Culbertson, Jack A. (Issue Editor)
Theory Into Practice.
Volume 2, Number 5, 1963.

Eidell, Terry L. & Kitchel, Joanne M. (Editors)
Knowledge Production and Utilization in Educational Administration.
Eugene, Oregon; Center for the Advanced Study of Educational Administration, 1968

Gruber, William H. & Marquis, Donald G. (Editors)
Factors in the Transfer of Technology.
Cambridge; Massachusetts Institute of Technology, 1969

Guba, Egon G. (Editor)
The Role of Educational Research in Educational Change: The United States.
Bloomington, Indiana; National Institute for the Study of Educational Change, 1967

Leeper, Robert R. (Editor)
Strategy for Curriculum Change.
Washington, D.C.; Association for Supervision and Curriculum Development, 1965

Larsen, Otto (Issue Editor)
Sociological Inquiry.
Volume 32, Number 1, 1962

Meierhenry, Wesley C. (Editor)
Media and Educational Innovation.
Lincoln; Nebraska University, 1964

Miles, Matthew B. (Editor)
Innovation in Education.
New York; Columbia University Teachers College Bureau of Publications, 1964

Miller, Richard I. (Editor)
Perspectives on Educational Change.
New York; Appleton-Century-Crofts, 1967

Rogers, Everett M. (Editor)
Research Implications for Educational Diffusion: Major Papers Presented at a National Conference on Diffusion of Educational Ideas.
East Lansing; Michigan State University, 1968

Wolf, Willavene (Issue Editor)
Theory Into Practice.
Volume 6, Number 2, 1967

GRANDFATHERS

To supplement the information conveniently found in the

core reference shelf described above, there is another collection of books and articles which perhaps represent the "grandfathers" of this field of study. The "grandfathers", all classics in their own fields, are so named because of the subsequent work they have stimulated. Although research utilization is a recent topic of concern as reflected by the bibliography with only a dozen items having been published before 1960, the "grandfathers" are noticeable perhaps only by their relatively early publication dates. Not one of these works discusses research utilization explicitly or directly, but each represents important early thinking or study on related matters with serious implications for research utilization scholars and students today. These books and articles are often cited by more recent efforts bearing directly on research utilization.

These so-called "grandfathers" include two important works on public awareness and information campaigns. Star and Hughes (1950) and Hyman and Sheatsley (1958) both discuss the lack of awareness of information readily available in the mass media among certain groups of the general public. Klapper (1960) and Weiss (1967) each present comprehensive reviews of mass media research. The ineffectiveness of the mass media in changing opinions was first discovered by Lazarsfeld, Berelson, and Gaudet (1948) studying the 1940 presidential election. They focused attention on the importance of interpersonal communication in this role, and a study by Katz and Lazarsfeld (1955)

investigated this phenomenon directly. Katz and Lazarsfeld's aim was to establish whether or not there was a two-step flow of communication, that is, a flow of communication from the mass media to certain self-selected individuals in the audience and then from them on to the rest of the general public. The concept of "gatekeeper" (these self-selected individuals), so important to the two-step flow theory, was first introduced by Kurt Lewin (1958). Research on the diffusion of innovations was reviewed by Lionberger (1960) with particular emphasis on work conducted in the realm of rural sociology. Rogers (1962) then presents a comprehensive summary of the concepts and theory relating to this topic. And turning to attitude change, an extremely active research area, Hovland, Janis, and Kelley (1953) describe some of the experimental work carried on at Yale University exploring such variables as communicator credibility, individual persuasibility, message arrangement, and content and audience group membership.

PROPOSITIONS

The extensive survey of the literature required for the preparation of this bibliography yielded the following generally accepted propositions related to the utilization of research findings:

1. In the adoption of new ideas or technologies, there are distinct stages through which an individual passes.
2. Different media have differential effectiveness in these stages: the mass media being most effective in the early stages as an individual becomes aware of a new idea and the interpersonal channels becoming increasingly important as the individual moves on into the later stages of adoption.
3. There is a two-step flow of communication from the mass media to the individual with gatekeepers or opinion leaders acting as intermediaries in this flow.
4. Opinion leaders are younger, enjoy higher social status, make greater use of cosmopolite, impersonal sources of information than those whom they influence.
5. The mass media are ineffective in changing attitudes or promoting new practices, except among a self-selected audience that is already predisposed to change.
6. The mass media are ineffective in raising knowledge levels of the entire population; the self-selected minority that "tunes in" to informational content is already above average in their knowledge. Low knowledge individuals targeted for the message are likely to "tune out."
7. The unit of adoption, that is whether or not a new idea can be adopted by a single individual alone or whether he needs the cooperation of others, determines the speed and ease with which a new idea is adopted.

8. The nature of the new idea or technology is an important determinant of the speed and ease with which it is accepted: the less risky and expensive ones are adopted first.
9. The credibility--expertise and trustworthiness--of the source of information about a new idea or technology also affects the speed and ease with which it is adopted.
10. Resistance to change, and even resistance to information itself, are often ego-defense mechanisms. Two factors, describable as "cognitive balance" and "conservation of energy" (or the "principle of least effort"), have the effect of blocking change.
11. The economic or game theory model of decision-making does not fit the data on adoption of new practices. The concept of "subjective utility" has to be defined very idiosyncratically to cover discrepancies between objective utility and actual choice.
12. There is a deep, vertical audience for educational information with at least four identifialbe audiences--researchers, administrators, teachers, and the general public.
13. Education is unique in that there is no effective way by which the environment can be allowed to screen information. Other occupations in which individuals are busy and occupied with the press of other considerations allow the environment to screen the mass of available information on incoming channels. Education offers no such screening.

14. Peers, principals, and institutions within the educational system are perceived as the primary barriers to educational change by teachers.
15. Visibility of results or feedback--information on how a newly instituted change is working--are important factors in the continued trial of an innovation and further innovation.

Allen, Thomas J. *1966
Managing the Flow of Scientific and Technical Information.
Cambridge, Massachusetts Institute of Technology (Unpublished Dissertation).

"Scientists are found to rely more heavily on written than oral sources of information, while for technologists the pattern is reversed. For technologists, the organization to which they belong imposes rather severe barriers to communication." "The flow of technical information to a member of an industrial organization follows a multi-step pattern, with certain individuals serving as key links to the outside world, through either the literature or oral contacts outside of their own laboratories."

Allen, Thomas J. *1969
The Differential Performance of Information Channels in the Transfer of Technology. In William H. Gruber & Donald G. Marquis, Factors in the Transfer of Technology (see main entry).

Parallel R & D projects are studied using questionnaires and interviews to measure "the performance of six channels in transferring technical information" (literature, external sources, vendors, customers, technical staff, and company research). "Those <sources of information> originating within the laboratory perform far better than those originating outside." Gatekeepers are seen as possible solutions to this inter-organizational communication barrier. "Literature is not greatly used, and is mediocre at best in its performance."

Anderson, Richard C. *1961
The Role of Educational Engineer.
Journal of Educational Sociology, 34:8, 377-381.

"Reviews of research rarely say anything of importance to school personnel about educational practice...The problem in bridging the gap between research and practice is not essentially one of communication. The problem, as I see it, is one of engineering."

Auerbach Corporation *1965
DOD User Needs Study, Phase 1.
Philadelphia, Auerbach Corporation.

Results of a survey sampling Department of Defense Research, Development, Test and Evaluation personnel are

presented. Characteristics of this population, its tasks, the type of information it uses, and its satisfaction with its ability to obtain this information are described, along with some recommendations for further study in this area by the DOD.

Back, Kurt W. *1962
The Behavior of Scientists: Communication and Creativity.
Sociological Inquiry, 32:1, 82-87.

"This paper does not deny the need for more efficient systems of transmitting scientific information, but it tries to show their limitations." Back sees two "conditions of reception of information," exploratory behavior and searching behavior. Scientific information systems are designed primarily for individuals engaged in searching behavior but are of little help to those exploring.

Barnett, H.G. *1953
Innovation: The Basis of Cultural Change.
New York, McGraw-Hill.

"...an attempt has been made to formulate a general theory of the nature of innovation and to analyze the conditions for, and the immediate social consequences of, the appearance of novel ideas." Barnett organizes his discussion into four sections: the setting, incentives to innovation, innovative processes, and acceptance and rejection.

Bauer, Raymond A. *1969
The Obstinate Audience: The Influence Process from the Point of View of Social Communication. In Walter G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

After a good review of the highlights of communication research both in the laboratory and in the field, Bauer concludes that "the process of social communication and the flow of influence in general must be regarded as a transaction. 'Transactionism'...is used here in the sense of an exchange of values between two or more parties; each gives in order to get."

Bauer, Raymond A. & Wortzel, Lawrence H. *1966
Doctor's Choice: The Physician and His Sources of Information About Drugs.
Journal of Marketing Research, 3, 40-47.

The article concludes "that communication channels leading to the physician are overloaded ... and strongly suggests that physicians do make decisions to allocate their time and effort usefully." The physician is seen as allowing his environment (commercial promotion) to do his initial screening. Then, at a later stage, depending on the severity of the illness to be treated, more information seeking is carried out.

Beal, George M. & Rogers, Everett M. *1959
The Scientist as a Referent in the Communication of New Technology.
Public Opinion Quarterly, 22:4, 555-563.

Projective research techniques elicited the following conclusions: "farmers generally viewed the scientist as a 'distant referent' and someone with whom they had little direct contact," county agents were seen as their link with the research community, more credibility was attributed to scientists working for the government than commercially employed scientists, and early adopters showed more interest in research and more favorable attitudes toward the scientist.

Ben-David, Joseph *1960
Roles and Innovations in Medicine.
American Journal of Sociology, 65:6, 557-568.

"Typically, the innovators <pioneers in bacteriology and psychoanalysis> were practitioners who were involved in research and academic teaching as a sideline, or 'role-hybrids', that is, theoretical scientists who were driven by personal or professional reasons to solve practical problems. With the spread of professionalization, other fields may gain their innovations from such sources."

Benne, Kenneth D., Chin, Robert, & Bennis, Walter G. *1969
Science and Practice. In Walter G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

In striving to present a better understanding of the utilization of scientific knowledge, the authors differentiate between the practitioner and the scientist. "Learning the arts

of practice comes through a process of apprenticeship, preferably under the guidance of an experienced practitioner who has mastered the art, not through academic tutelage in theories and and hypotheses 'about' the materials handled by his craft."

Bennis, Walter G. *1969
Theory and Method in Applying Behavioral Science to Planned Organizational Change. In Walter G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

In implementation, "the client system should have as much understanding of the change and its consequences...as is possible." "The change effort should be perceived as being as self-motivated and voluntary as possible." "The change program must include emotional value as well as cognitive (informational) elements for successful implementation." "The quality of the client-agent relationship is pivotal to the success of the change program."

Bennis, Walter G., Benne, Kenneth D., & Chin, Robert (Editors) *1969
The Planning of Change.
New York, Holt, Rinehart and Winston, Inc., Second Edition.

Over 40 articles have been collected "to contribute to the unfinished task of merging and reconciling the arts of social practice and the sciences of human behavior." See Bauer; Benne, Chin, and Bennis; Bennis; Chin and Benne; Havelock and Benne; Katz; Lippitt; and Miles et al.

Bessent, Wailand & Moore, Hollis A. *1967
The Effects of Outside Funds on School Districts. In Richard I. Miller, Perspectives on Educational Change (see main entry).

After presenting a typology of change strategies which differentiates between implementation through existing and temporary organizational structures and control at the director and operating level, this chapter concludes "...that foundations cannot be effective in demonstrating comprehensive program changes in public schools but should confine their efforts to supporting free-searching innovative efforts in districts where they are spontaneously occurring."

Bhola, Harbans Singh *1966
The Need for Planned Change in Education.
Theory into Practice, 5:1, 7-10.

In objectively discussing and seeking to alleviate the fears of some administrators and teachers, Bhola concludes that "planned change is part of the very core of democracy--it is the only logical choice available to a social engineer who chooses deliberately and intensively to improve educational systems."

Bhola, Harbans Singh & Blanke, Virgil E. *1966
A Report of a Conference on Strategies for Educational Change.
Columbus, Ohio State University, Research Foundation. *ED 012 376

This is a report on a conference "designed to extend knowledge about the process of planned change by emphasizing the actual strategies of educational change. Substantive, organizational, and methodological strategies for coping with various problems of planning and study of change provide the foci for conference deliberations."

Blanke, Virgil E. (Issue Editor) *1966
Theory into Practice, 5:1.

This issue is devoted to the topic of planning for educational change. See Bhola; Eboch; Hayes; Jung and Lippitt; and Ribble.

Booth, Alan *1966
Factors Which Influence Participation in Adult Education Conferences and Programs by Members of Professional Associations.
Lincoln, University of Nebraska. *ED 010 411

"The principal objective of the study was to apply and test the major theoretical constructs and research findings related to the diffusion of innovation to decisions by members of occupationally related associations to participate in educational programs designed to increase occupational competence." Findings showed that "diffusion theory has proved to be useful in examining conference participation, but also imposes serious limitations in both scope and depth."

Boyan, Norman J. *1967
Problems and Issues of Knowledge Production and Utilization in Educational Administration. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Procuction and

Utilization in Educational Administration (see main entry).

Educational development is viewed as an activity equal in importance to credible demonstration and sophisticated dissemination in the relationship between the production and utilization of knowledge. "Yet, it is hypothesized that the relationship between the production and utilization of new knowledge in education will be materially strengthened only when educational development emerges as a well supported and highly rewarded domain of activity."

Brickell, Henry M. *1962
The Dynamics of Educational Change.
Theory into Practice, 1:2, 81-88.

"The key conclusion of this study is that the design, the evaluation, and the dissemination of innovations are not all the same. They are three distinctly different processes." "The most formidable block to instructional improvement today is that education--unlike medicine, agriculture, and industry--fails to distinguish the three phases of change."

Brickell, Henry M. *1964
State Organization for Educational Change: A Case Study and a Proposal. In Matthew B. Miles, Innovation in Education (see main entry).

Brickell seeks "to discover reasons for structural stability in schools, to identify any forces powerful enough to loosen that stability, and to suggest a new pattern of state organization which would make the modification of instructional arrangements rational, rapid, and continuous."

Brickell, Henry M. *1964
State Organization for Educational Means: New Media as Means and as Ends. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

Brickell sees four distinct phases in the process of improving school programs: (1) basic research ("How do people learn?"), (2) program design ("How should people be taught?"), (3) evaluation through field testing ("Does the program teach?"), and (4) dissemination through demonstration and re-education. Brickell examines the current pattern of program dissemination, and then proposes a new plan in which basic research is supported

through federal funds, program design and program evaluation are supported at state or regional levels, and "program dissemination should be financed and controlled by local school systems."

Brickell, Henry M. *1967
The Role of Local School Systems in Change. In Richard I. Miller, Perspectives on Educational Change (see main entry).

"This chapter explores the role of the local school system in bringing about change in its own classroom." A 30-element "model of the functions needed to bring about systematic improvements in local educational programs" is presented, and each of these elements is discussed. The model "suggests that the functions of research and development and testing of new instructional programs ought to be conducted outside of local school systems..."

Brickell, Henry M. *1967
Role of Research in the Innovation Process. In Egon G. Guba, The Role of Educational Research in Educational Change: The United States (see main entry).

Innumerable universally adopted ideas and theories have absolutely no sound basis in research at all. Research is seen as being very important at every step in the innovative process, however, "the fact that research is a valuable tool at every point in the innovative process does not mean that it is a sufficient tool." "Thus, for the time being, one could wish nothing better for good research in the United States than that it occur on the occasion, and point in the direction, of an idea whose time has come."

Bright, R. Louis & Gideonse, Hendrik D. *1967
Education Research and Its Relation to Policy: An Analysis Based on the Experience of the United States.
Washington, D.C., United States Office of Education (Unpublished Paper). *ED 018 866

"The purpose of this paper is to stimulate discussion about support for research and development for education by describing the nature of such activities, by discussing some of the issues relating to the administration of research, and by presenting for consideration the brief but significant experience of one nation <the United States> in developing a research program for education."

Burchinal, Lee G. *1967
Articulation of Resources for Research Utilization.
Washington, D.C., United States Office of Education
(Unpublished Paper). *ED 013 971

Burchinal enumerates the "multi-level set of resources which may provide the basis for building programs that can foster adoption of new ideas and practices <ERIC, SRIS, EPIE, Regional Labs, R & D Centers, etc.>." Turning to the future, he sees "five lines of development...to promote widespread installation of promising programs." They include (1) an educational communication network, (2) articulation of "in-house" information processing and "field-oriented" change agent roles, (3) research for guiding installation of new programs, (4) development of training programs and aids, and (5) developing communication among change-facilitating resources.

Burchinal, Lee G. *1967
ERIC and Dissemination of Research Findings.
Theory into Practice, 6:2, 77-84.

Burchinal discusses sources of information on educational research including the School Research Information Service and the Educational Resources Information Centers. He focuses on OE's ERIC undertaking and speculates what future steps need to be taken. "Local information service centers, located within the working environment of potential users--not farther than a local call or short drive--can be organized at relatively low cost, and will help bridge the gap between users' immediate needs and the vast storehouse of information available through systems such as ERIC.

Camaren, Reuben James *1966
Innovation as a Factor Influencing the Diffusion and Adoption Process.
Berkeley, University of California
(Unpublished Dissertation).

"Answers are sought to the following questions: (1) How rate of adoption differs with innovation and the differentiated segment of community structure in which adopted?... (2) How do adopters obtain information about innovation?... (3) How does the adoption process differ with innovation?" The treatment of innovations as constants in studying the

adoption process--"the equivalent unit approach"--is not realistic, for "the study suggests that it is the perceived characteristics of innovation that influence choice among alternatives."

Carlson, Richard O. *1964
School Superintendents and Adoption of Modern Math: A Social Structure Profile. In Matthew B. Miles, Innovation in Education (see main entry).

With data obtained from 43 school superintendents, Carlson questions the assumptions that school superintendents are "budget victims" and "powerless officeholders". He maintains that characteristics of superintendents must be considered in explaining educational adoption rates.

Carlson, Richard O. *1965
Adoption of Educational Innovations.
Eugene, University of Oregon. Center for the Advanced Study of Educational Administration.

Carlson specifies "the research problem, the explanatory framework to be employed, and the sources and kinds of data to be involved" in studying educational differences. The adoption of new educational practices..., the varying fates of the innovations in terms of their characteristics as innovations..., <and> some of the unanticipated consequences in the use of one innovation, programmed instruction, in one school" are also discussed.

Carlson, Richard O. *1965
Barriers to Change in Public Schools. In Richard O. Carlson, Change Process in the Public Schools (see main entry).

Carlson lists three barriers to educational change. They are (1) the absence of a change agent, (2) a weak knowledge base, and (3) "domestication" of public schools. He concludes by making the point that "recent findings which indicate no significant relationship between rate of adoption of educational innovations and expenditure per child...show the school administrator as something other than a victim of his local budget."

Carlson, Richard O.(Editor) *1965
Change Process in the Public Schools.

Eugene, University of Oregon. Center for Advanced Study of Educational Administration.

This is a published collection of papers delivered at a seminar on planned change in the public schools held in Portland, Oregon in October, 1964. There is also a summary of discussions among the participating social scientists and school administrative personnel. See Carlson, Gallaher, Miles, Pellegrin, and Rogers.

Carlson, Richard O. *1968
Summary and Critique of Educational Diffusion Research. In Everett M. Rogers, Research Implications for Educational Diffusion (see main entry).

"In this paper I have tried to provide a general summary of the research on the adoption and diffusion of educational innovations. Also, I have tried to present an overview of the basic elements of the process of diffusion and to indicate within this framework what is known and where the research has fallen short of the mark."

Carter, Launor F. *1966
From Research to Development to Use.
Santa Monica, System Development Corporation.
*ED 026 741

"This paper will relate some of the studies and investigations" associated with the research to utilization sequence. "Three separate studies from quite different settings will be described to illustrate some of the findings and problems associated with the generation of new knowledge and its impact on the institutions which receive the knowledge. Finally, an attempt will be made to relate these studies to the mission of the regional laboratories."

Carter, Launor F. *1967
Knowledge Production and Utilization in Contemporary Organizations. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

Three utilization studies, Project Hindsight, the Tacoma Project on Mentally Retarded, and SDC Travelling Seminar Project are reviewed, and Carter stresses the importance of the gatekeeping role in research utilization.

Chesler, Mark, Schmuck, Richard, & Lippitt, Ronald *1963
The Principal's Role in Facilitating Innovation.
Theory into Practice, 2:5, 269-277.

Three factors, teachers' feelings that "new practices can help solve problems important to them and their pupils," that "a given practice is easily adaptable to their own styles of teaching and does not demand a great investment of time or energy," and that "the school administration will support new teaching practices," are important in facilitating teacher innovativeness. The principal's role is important therein; not only must he have an accurate perception of the values and skills of his staff, but also his staff must be aware of the importance he places on the improvement of classroom teaching.

Chin, Robert *1964
Models and Ideas about Changing. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

Four conceptual models of change are presented, systems and components models, organic systems models, developmental models, and inter-system models, with emphasis on the relationship between the change agent and the target of change.

Chin, Robert & Benne, Kenneth D. *1969
General Strategies for Effecting Changes in Human Systems. In Walter G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

Three strategies of planned change are enumerated, namely the "empirical-rational" strategy, the "normative-re-educative" strategy, and the "power-coercive" strategy. Prominent proponents and subcategories for each of these approaches are discussed and charted.

Chorness, M.H., Rittenhouse, C.H., & Heald, R.C. *1968
Decision Processes and Information Needs in Education: A Field Survey.
Berkeley, Far West Laboratory for Educational Research and Development.

Among the findings of this study is the fact that federally funded information programs are the least used sources of information by educators. Interpersonal contacts are the

most commonly used, however "there is no reason to believe that traditional ways for getting information and for the sorting of information are the most efficient. Many school districts simply lack the manpower to carry out such processes...there is no reason why planners and decision makers should be forced to rely upon their prior experiences and intuitions alone when the hard experiences of others in similar project areas may have been documented and would be at their disposal if they only knew they existed."

Chorness, M.H., Rittenhouse, C.H., & Heald, R.C. *1969
Use of Resource Material and Decision Processes Associated with Educational Innovation. A Literature Survey.
Berkeley, Far West Laboratory for Educational Research and Development.

"This study has been further delimited to include examination of findings regarding (1) the utilization of results obtained from educational research and (2) the decision processes associated with educational innovation." This bibliography contains 65 references which are annotated and an additional 100 which are not.

Clark, David L. (Issue Editor) *1962
Theory into Practice, 1:2.

This issue is devoted to the question "What's next for research in education?" See Brickell, Rogers, and Schick.

Clemens, Thomas D. *1967
Dissemination of Research Results. In Egon G. Guba, The Role of Educational Research in Educational Change: The United States (see main entry).

Three primary audiences for educational research are identified (researchers, the educational decision maker and practitioner, and the lay public), and four resources for research dissemination (professional organizations and associations; universities; government agencies; and private publishers, foundations, and mass media) are described. "There is evolving, however, a group of mutually supporting research information systems growing out of existing resources and supplemented by new resources, private and public, local, regional, state, and national."

Coffey, Hubert S. et al. *1967
Utilization of Applicable Research and Demonstration Results.
Los Angeles, Human Interaction Research Institute. *ED 012 467

In a three year study of vocational rehabilitation agencies, the Institute found that "There are too many barriers, both in the processes of communication and in the attitudes of people and organizations which are to receive them, to expect that the proliferation of new ideas will take place without some prompting. A strategy for innovation is needed." Two strategies--a nontechnical booklet describing an innovation and psychological counselling with the staffs--were developed, tried and evaluated. Both seemed to work.

Coleman, James S., Katz, Elihu, & Menzel, Herbert *1966
Medical Innovation: A Diffusion Study.
New York, Bobbs-Merrill.

The initial prescription date of a new drug by doctors in four communities is the dependent variable in this study. Data showed "the insufficiency of any single channel of influence in the adoption process and the differential predominance of various channels at the several stages of the decision process, and, by inference, the fact that different channels are best suited to various functions." Interpersonal links among physicians also played significant roles.

Coney, Robert, et al. *1968
Educational R&D Information System Requirements: A Task Force Report.
Berkeley, Far West Laboratory for Educational Research and Development. *ED 022 441

To determine the parameters of an information system to satisfy the needs of local districts for access to and use of the results of research and development in education, a task force was established. Discussions and analyses focused on output, input, process, and roles. Participants sought to determine the existing conditions of current research dissemination, a model system, practical possibilities, and greatest present needs in system components.

Cook, Desmond L. & Damico, Sandra B. *1969
Role Perceptions of Educational Administrators and Researchers Relative to Implementation of Research Findings.

Columbus, Ohio State University, Educational Program Center. *ED 027 610

The authors discuss responses from educational researchers and school superintendents to a questionnaire. Major findings discussed showed that both groups support mutual understanding in administrator-researcher relations, and evidence similar role perceptions.

Corey, Stephen M. *1963
Helping Other People Change.
Columbus, Ohio State University Press.

From his extensive experience as an educational consultant, Corey gets down to the nitty gritty of effecting planned change in schools. He emphasizes the importance of the consultant's helping role in the consultant-client relationship and tries "to discuss change...from the point of view of the person changing."

Crow, Wayman J. *1964
Characteristics of Leaders Who Are Able to Promote Change. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

Crow outlines types and qualities of leaders. "A leader is defined in the present paper as a person who influences the thoughts or actions of at least one other person." "Leadership is only one source producing change, however, and often it is insignificant in its effect as compared to other sources" (the individual, the group, the social system, and the ecology).

Culbertson, Jack A. (Issue Editor) *1963
Theory into Practice, 2:5.

This issue of Theory into Practice is devoted to the topic of change in the school. See Chesler, Schmuck, and Lippitt: Eichholz; Griffiths; and Willower.

Culbertson, Jack A. *1965
Organizational Strategies for Planned Change in Education.
Washington, D.C., United States Office of Education (Unpublished Paper). *ED 010 915

Culbertson proposes four strategies for achieving long-range goals in education: (1) a leadership training

academy in the major traditions of society, (2) an institute for the study of educational innovation, (3) a plan to encourage interorganizational and regional educational alliances to improve state educational legislation, and (4) teams of multidisciplinary specialists to apply operations research to local school districts.

Davis, Richard H. *1965
Personal and Organizational Variables Related to the Adoption of Educational Innovations in Liberal Arts Colleges.
Chicago, University of Chicago. *ED 003 685

The factors related to the adoption of educational innovations by a private, liberal arts college are explored using a social systems model which incorporates personal and organizational dimensions.

Defleur, Melvin L. *1966
Theories of Mass Communication.
New York, David McKay Co., Inc.

Contemporary theories of the mass media are largely concerned with the effects of the media on the audience. Three types of theoretical approaches are presented. One approach stresses characteristics of audience members; another focuses upon a psychodynamic model of persuasion; and the third emphasizes the importance of social groups and interaction among members of the audience.

Donley, Donald T. et al. *1965
The Investigation of a Method for the Dissemination of Educational Research Findings to Practitioners.
Albany, State University of New York. *ED 003 388

The resources and activities of a study council on the problem of more effective dissemination of educational research findings showed that dissemination in the form of conferences, inservice training, study teams, and consultant services can be an effective device for improving education.

Eboch, Sidney C. *1966
The Study of Change as a Concept in Education.
Theory into Practice, 5:1, 34-38.

"It is the purpose of this article to review some of the ways education is beginning to study change and some of the implications of other fields for educational change." Eboch reviews some of the major sources of information regarding educational change, including major universities at which this study is centered as well as organizations concerned with this problem.

Edling, Jack *1964
Role of Newer Media in Planned Change. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

In taking a position contrary to that taken by most of the participants in this symposium, Edling cites a great deal of research and concludes "there is little doubt that ... the newer media will prove to be extraordinary and unparalleled change agents."

Eichholz, Gerhard C. *1963
Why Do Teachers Reject Change?
Theory into Practice, 2:5, 264-268.

In a theory of the process of rejection, Eichholz sets forth five stages similar to those stages in adoption of Everett Rogers. They are awareness, disinterest, denial, trial, and rejection. He also sees that there are five different forms of rejection, namely ignorance, suspended judgement, situational, personal, and experimental.

Eichholz, Gerhard C. & Rogers, Everett M. *1964
Resistance to the Adoption of Audio-visual Aids by Elementary School Teachers: Contrasts and Similarities to Agricultural Innovation. In Matthew B. Miles, Innovation in Education (see main entry).

The authors illustrate the convergence of education and rural sociology in the diffusion of innovations. Emphasis is placed upon the phenomenon of rejection (as opposed to adoption), and a theory of the forms it takes is advanced.

Eidell, Terry L. & Kitchel, Joanne M. (Editors) *1968
Knowledge Production and Utilization in Educational Administration.

Eugene, University of Oregon, Center for the Advanced Study of Educational Administration. *ED 024 112

The papers contained in this monograph were presented at the seventeenth UCEA Career Development Seminar held in Portland, Oregon in October, 1967. The seminar was co-hosted by the school of education and the Center for the Advanced Study of Educational Administration at the University of Oregon. See Boyan, Carter, Goldhammer, Guba, Havelock, Schmuck, and Selber.

Emery, F.E. & Oeser, O.A. *1958
Information, Decision and Action: A Study of the Psychological Determinants of Changes in Farming Techniques. New York, Cambridge University Press.

In a study of Australian farmers, the following practical suggestions for achieving the acceptance of new ideas are made. "The educator should strive to maximize (1) new experiences, (2) range of experiences, and (3) group participation. The first is related to the concept of 'degree of exposure to information'; the second to the concepts of 'urbanization' and of 'conceptual skills'; and the third to the concept of 'influence structure' in the community."

Evans, Richard I. & Leppmann, Peter K. *1967
Resistance to Innovation in Higher Education: A Social Psychological Exploration Focused on Television and the Establishment. San Francisco, Jossey-Bass, Inc.

In a research case history of the attempt to introduce ITV into a university, the following variables are discussed as being important: nature of the concept innovation itself, source (external or internal to the adopting group) of the innovation, and nature of the innovation-receiving system.

Fairweather, George W. *1967
Methods for Experimental Social Innovation. New York, John Wiley and Sons, Inc.

This book seeks to answer the question "how can society effect needed changes in ongoing social processes with a minimum of disruption?" The answer given is by experimental social innovation. A study "is defined as a social innovative experiment because it (1) defined a significant social problem, (2) carried on naturalistic

observations, (3) innovated a new social subsystem, (4) designed an experiment to compare it with a traditional subsystem, (5) implanted the two subsystems in the appropriate social context, (6) was longitudinal in time so that appropriate evaluations could be made, (7) made the researchers responsible for the welfare of its participating members, and (8) was multidisciplinary in nature."

Fliegel, Frederick C. & Kivlin, Joseph E. *1966
Attributes of Innovatons as Factors in Diffusion.
American Journal of Sociology, 72:3, 235-248.

This paper reemphasizes the importance of attributes of innovations in explaining the diffusion process. Centered in rural sociology, the study shows innovations that are most rewarding and least risky to be adopted most readily, and that cost is not a deterrent to rapid adoption.

Fox, Robert S. & Lippitt, Ronald *1964
The Innovation of Classroom Mental Health Practices. In Matthew B. Miles, Innovation in Education (see main entry).

Two approaches to encouraging classroom change are hypothesized: action research (involving the teacher in data collection) and communication linkage (improving inter-teacher contact). Teachers with high, medium, and low involvement were encouraged to attempt innovative classroom ideas. Research was still in progress at the time this was written.

Gallaher, Art, Jr. *1964
The Role of the Advocate and Directed Change. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

With his anthropological approach, Gallaher outlines the three processes by which change occurs: (1) innovation (2) dissemination, and (3) integration. An innovator is seen as the individual who conceives of a new idea, while an advocate is the one who promotes it. Two models of advocacy are outlined, pragmatic advocacy and utopic advocacy.

Gallaher, Art Jr. *1965
Directed Change in Formal Organizations: The School System. In Richard O. Carlson, Change Process in the

Public Schools (see main entry).

As an anthropologist, Gallaher discusses formal organizations, the "role of the advocate," and the nature of change. He sees the school administrator as a "man in the middle" who "stands between the client group...and the educational system."

Garabedian, Peter G. & Dodd, Stuart C. *1962
Clique Size as a Factor in Message Diffusion.
Sociological Inquiry, 32:1, 71-81.

Simulations were run with social groups having cliques of two through six members. "The findings reported here are seen to be consistent with findings reported elsewhere, and, further, are seen to support the generalization that social structural influences have little or no effect on the rate of social diffusion during early periods of the diffusion process, but, in middle or later periods, begin to show their impact."

Garvey, William D. & Griffith, Belver C. *1967
Scientific Communication as a Social System.
Science, 157:3792, 1011-1016.

"In this article we explore scientific information exchange as a system of social interaction among scientists...the orderly manner in which information exchange within a discipline evolves...the social and economic dimensions of the dynamics of the system and the special relevance of informal and formal channels of communication to these dynamics." The article concludes by listing some of the innovations suggested to the American Psychological Association for improving communication within that discipline.

Gephart, William J. *1965
Criteria for Methodological Adequacy for Research on Educational Change.
Milwaukee, University of Wisconsin (Unpublished Paper). *ED 011 146

This dicussion of methodological criteria focuses on a logical framework for educational research, general criteria for research evaluation, and elements of the study of the educational change process.

Gerstberger, Peter G. & Allen Thomas J. *1968
Criteria Used by Research and Development Engineers in the Selection of an Information Source.
Journal of Applied Psychology, 52:4, 272-279.

"Engineers, in selecting among information channels, act in a manner which is intended not to maximize gain, but rather to minimize loss." "Accessibility is the single most important determinent of the overall extent to which an information channel is used." "Both accessibility and perceived technical quality influence the choice of first source."

Goldhammer, Keith *1965
Issues and Strategies in the Public Acceptance of Educational Change.
Eugene, University of Oregon. Center for the Advanced Study of Educational Administration. *ED 010 224

Goldhammer offers categories of factors affecting the public acceptance of educational change which were derived from previous studies on change within organizations. These include the public's image of the advocate of change, the organization and the ends which it it serves, the public's view of the proposed changes, the congruence of the proposed change with generally accepted values and recognized social needs, and situational factors which facilitate or impede the acceptance of change.

Goldhammer, Keith *1968
Implications for Change in Training Programs. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

Discussing the training of administrators, Goldhammer states in a section entitled "The Research to Application Myth" that "I would suggest that a more reasonable progression in the chain than the one which proceeds from research to development to use is that which goes from experience to experimentation to diagnosis, to research, to application, to further experimentation, and so on, constantly recycling the process."

Goldhammer, Keith & Farner, Frank *1965
The Jackson County Story, A Case Study.
Eugene, University of Oregon. Center for the Advanced Study of Educational Administration. *ED 011 569

This booklet presents an in-depth study of an educational district. The arrival of a new superintendent to this district is described as well as his plans for introducing educational changes. Intervening factors are studied in an evaluation of the results of the new superintendent's plans for change.

Goodson, Max R. & Hammes, Richard *1968
A Team Designed for School System Changing.
Madison, University of Wisconsin, Wisconsin Research and Development Center for Cognitive Learning.
*ED 023 162

The development and functions of a change-agent team model which was designed to plan for and manage specific changes and to facilitate and perpetuate an innovative climate in a school system is reported.

Gordon, Gerald & Marquis, Sue *1966
Freedom, Visibility of Consequences, and Scientific Innovation.
American Journal of Sociology, 72:2, 195-202.

While freedom from administrative constraints was thought to be conducive to innovativeness in scientific research, the opposite was found to be true. An overriding factor seems to be contiguity to application of research findings and visibility of research results.

Griffis, Bertrum W. *1968
Research Utilization in the Social and Rehabilitation Service. In Neil S. Dumas (Editor), Research Utilization and Dissemination: Proceedings of a Regional Conference. Gainsville, University of Florida. *ED 024 922

"I would like to comment on several topics of interest, among them (1) the SRS Task Force on Research Utilization, some of its recommendations, and the steps being taken to carry them out; (2) more detailed comment on these recommendations, the use of Research Utilization Specialists in State agencies to expedite the adoption of new research results; (3) the role of the Research Utilization Branch, of which I am a member; and (4) perhaps one or two general remarks on research utilizations."

Griffiths, Daniel E. *1963
The Elementary-School Principal and Change in the School System.
Theory into Practice, 2:5, 278-284.

"This study entailed the development of a simulated administrative situation...involving 232 principals from all over the country as subjects." "...if we are to have change in the school systems, we cannot look to the principal to initiate this change. The initiative must come from the top. Once a change is sanctioned by his supervisors, the principal will work to effect that change at the building level."

Gruber, William H. & Marquis, Donald G. (Editors) *1969
Factors in the Transfer of Technology.
Cambridge, Massachusetts Institute of Technology Press.

This is the published collection of papers rewritten after first presentation at the M.I.T. Conference on Human Factors in the Transfer of Technology held at the Massachusetts Institute of Technology on May 18-20, 1966. See Allen; Gruber and Marquis; and McClelland.

Gruber, William H. & Marquis, Donald G. *1969
Research on the Human Factor in the Transfer of Technology.
In William H. Gruber & Donald G. Marquis, Factors in the Transfer of Technology (see main entry).

In the final chapter of their book, the editors summarize and integrate the papers therein presented. "The disparity between the current state of knowledge about the human factor in technology transfer and a preferred state is specified in a series of questions that were raised at the conference. The research frontier is described; definitions of terms are suggested for further research efforts; and models that specify the critical problems for further investigation are presented."

Guba, Egon G. *1965
The Impending Research Explosion and Educational Practice.
Kent, Ohio, Kent State University. *ED 011 405

A connective taxonomy--research, development, diffusion, and adoption--between educational research and practice is discussed, along with specific linking agencies designed to cope with the problems of the research-action continuum.

Guba, Egon G. *1965
Methodological Strategies for Educational Change.
Washington, Office of Education, Conference on Strategies for Educational Change. *ED 011 404

"It shall be my major thesis in this paper that the aexperimental strategy rather than the experimental strategy is particularly suited to inquiries in the area of educational change." To make this point, Guba delineates the two available strategies more closely, proposes a conceptual paradigm for thinking about the change process, and presents a series of illustrations of tactics for proving the aexperimental strategy operational and empirically meaningful.

Guba, Egon G. *1967
The Basis for Educational Improvement.
Bloomington, Indiana, National Institute for the Study of Educational Change. *ED 027 600

For a seminar on innovation and education, Guba develops "a model of the process of educational change, which will afford a framework for viewing what is happening" nationally; considers "what existing agencies and institutions are doing to carry out each step which the model mandates"; and gives "some detailed attention to one step <diffusion> which seems to be within the special purview of Title III programs."

Guba, Egon G. *1967
Development, Diffusion, and Evaluation. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

Guba posits a theory-practice continuum consisting of research, development, diffusion, and adoption. "Research has as its basic objective the advancement of knowledge...while adoption has as its basic objective the adaption of a development to the local situation and its installation therein." Guba focuses on the middle two stages, development, which "has as its basic objective the identification of operating problems and the formulation of solutions to those problems", and diffusion, which "has as its basic objective the creation of awareness about new developments and the provision of opportunities for their assessment along whatever dimensions practitioners may deem necessary." Guba also discusses evaluation in education concluding that it is becoming "much more

pervasive" than in the past and that "the methodologies currently in use...are hopelessly bad and urgently need replacement."

Guba, Egon G. *1967
The Expanding Concept of Research.
Theory into Practice, 6:2, 57-65.

The author makes three points about contemporary educational research. "First, traditional methods, while not inappropriate, are now seen as insufficient for dealing with the broad range of questions and conditions that must be confronted in education. New approaches are being developed. Second, a whole new series of roles is being defined which will link research much more solidly to educational practice than it has ever been. Third, the total process of research is being subjected to the same rigorous analysis and definition that only the methodological aspects before received."

Guba, Egon G. (Editor) *1967
The Role of Educational Research in Educational Change: The United States.
Bloomington, Indiana, National Institute for the Study of Educational Change. *ED 012 505

The sections of this paper were prepared for a conference on the Role of Educational Research in Educational Change held by the UNESCO Institute for Education in Hamburg, Germany on July 19-22, 1967. See Brickell; Clemens; and Guba and Horvat.

Guba, Egon G. & Horvat, John J. *1967
Concluding Note. In Egon Guba, The Role of Educational Research in Educational Change: The United States (see main entry).

American educational research is characterized as being loosely organized, university based, individually directed, theory oriented, committed to experimentalism, psychostatistical, a part-time pursuit, federally funded, understaffed and underfunded. Advantages and disadvantages of these characteristics are discussed. "However, it was pointed out that this pattern leads to four major deficiencies in relation to the role of research in informing and providing a knowledge base for educational development. These four deficiencies are (1) lack of research utilization, (2) lack of adequate research to practice mechanisms, (3) lack of adequate research training programs, and (4) lack of adequate tools and strategies for implementing improvement programs."

Gurin, Patricia *1968
Evaluation of a Series of Conferences to Disseminate Research Results on Vocational Choice. Final Report.
Ann Arbor, University of Michigan, Institute for Social Research. *ED 025 606

"This report presents the results of a dissemination project, the objectives of which were: to conduct" and evaluate "a set of conferences at several predominately Negro colleges to report research results from a study in which these schools had previously participated," and to relate the "effectiveness of the feedback process to: (a) internal characteristics and resources of the institutions themselves,(b) nature of the research team's interactions with the institutions, and (c) nature of external inputs..."

Haber, Ralph Norman *1963
The Spread of an Innovation: High School Language Laboratories.
Journal of Experimental Education, 31:4, 359-369.

In a survey of early adopting schools, some 75% were found to have teachers who had previous experience in their formal education with language laboratories. The support of language teachers was found to be essential and, although in every case school administrators did make the decisions to adopt the language laboratory innovation, support of foreign language teachers was a prerequisite to such a decision.

Havelock, Ronald G. *1967
Dissemination and Translation Roles in Education and Other Fields, A Comparative Analysis. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

In discussing the flow of educational information, Havelock illustrates the need for a linker between the educational researcher and the educational practitioner. After discussing types of linkers, Havelock cites the need for "permanent linking institutions" which would provide security, identity, and coordination to the linking role. But here too he cites problems inherent in the role, namely overload and marginality.

Havelock, Ronald G. *1968
Bibliography on Knowledge Utilization and Dissemination. Ann Arbor, University of Michigan, Institute for Social Research.

"This bibliography was compiled for the purpose of identifying and reviewing literature relevant to the topic: 'utilization and dissemination in all fields of knowledge.'"

Havelock, Ronald G. & Benne, Kenneth D. *1969
An Exploratory Study of Knowledge Utilization. In Walter G. Bennis, Kenneth D. Benne and Robert Chin, The Planning of Change (see main entry).

"The system analysis of utilization was broken down into two parts which were called the flow structure and the administrative structure." "There are, then, three features to the process of utilization, first, the motivational; second, the interpersonal; and third, the technical." The first of these has to do with the needs of the consumer, the second with the relationship between the sender and the receiver of a message, and the third with the content packaging and channel of communication.

Hayes, Paul C. *1966
The Effect of Planned Change on the Local School. Theory into Practice, 5:1, 46-50.

As an administrator, Hayes states that changes create problems in that they upset the status quo, but, with certain types of innovations, an approach of the superintendent which he calls "an innovator in semi-isolation" can be very successful.

Health and Welfare Council of the National Capitol Area *1968
Communicating and Utilizing Poverty Research. Bethesda, Maryland, NIMH. *ED 022 836

This summary report describes CROSS-TELL, a two-year project to demonstrate ways of communicating and utilizing research findings on the urban poor. Findings showed that materials prepared and distributed by the project, teacher institutes, a two-day workshop, and cooperative activities with other agencies and poverty-related projects were effective means of information dissemination.

Heathers, Glen *1967
Influencing Change at the Elementary Level. In Richard I. Miller Perspectives on Educational Change (see main entry).

"In this chapter, the analysis of change in the elementary school is launched with a discussion of the aims of elementary education. Should these aims be changed from what they have been, as proponents of the 'new education' believe? Then follows a section that examines the types of innovations being developed with particular attention to the relations they bear to improving the accomplishment of educational aims. The final section deals with strategies for developing and introducing changes at the elementary level."

Hemphill, John K. *1969
Educational Development.
Berkeley, Far West Laboratory for Educational Research and Development (Unpublished Paper).

Educational Development is defined as "the systematic process of creating new alternatives that contribute to the improvement of educational practice". Two ideal types of educational development are discussed, namely the product development approach and the change support approach. Considerations for choosing between these two approaches or in determining an appropriate mix of these approaches are also set forth.

Hovland, Carl I., Janis, Irving L., & Kelley, Harold H. *1953
Communication and Persuasion.
New Haven, Yale University Press.

This book reports on experimental research studying how beliefs and opinions are modified by persuasive communication. Most observed results are attributable to experimental variations in the communicator, message, audience, or response factors thereof. Fear-arousal, communicator credibility, and audience group membership and personality are among the independent variables studied.

Hyman, Herbert H. & Sheatsley, Paul B. *1958
Some Reasons Why Information Campaigns Fail. In Eleanor E. Maccoby, Theodore M. Newcomb, and Eugene L. Hartley (Editors), Readings in Social Psychology, Third Edition, New York, Holt, Rinehart and Winston, Inc.

"There exists a hard core of chronic 'know nothings'. Survey data show that the dissemination of increased amounts of information does not necessarily lead to greater understanding or attitude change on the part of the audience. The selective processes (exposure and perception) intervene.

Jung, Charles C. *1967
The Trainer Change-Agent Role Within a School System.
Washington, National Training Laboratories. *ED 012 514

Jung conceptualizes the role of the trainer change-agent within a school system as being "that of realizing the potential of the system in relation to its goal of creating maximally effective educational experiences and of making it increasingly possible for all members of the system to goal."

Jung, Charles C. *1968
Appendix M. Research Utilization and Problem Solving.
Portland, Oregon, Northwest Regional Educational Laboratory. *ED 026 318

RUPS is an instructional system designed to produce the following competencies in teachers: skills in (1) solving problems and utilizing research, (2) conducting force field analyses, (3) listening, (4) communicating, (5) knowing how to be a helper and a receiver of help, (6) giving and receiving feedback, and (7) working with peers and superiors.

Jung, Charles C., Fox, Robert, & Lippitt, Ronald *1967
An Orientation and Strategy for Working on Problems of Change in School Systems.
Washington, D.C., National Training Laboratories. *ED 012 513

"This paper presents an approach to dealing with educational change in a planful manner, the focus of change being the internal functioning of the school system. The paper offers a conceptualization of the primary goal and the operational structure of the school system and cites...research generalizations indicating some of the conditions which influence learning." A model is developed and implications are derived for a strategy of planned change.

Jung, Charles C. & Lippitt, Ronald *1966
The Study of Change as a Concept in Research Utilization.
Theory into Practice, 5:1, 25-29.

The authors build a "model for educational change that represents the process of utilization. The core of this process is the problem solving phases of planned change." Educational change may take place utilizing the knowledge of social scientists; the model recognizes that much educational innovation does not draw on scientific knowledge, but rather on knowledge of the educational setting.

Jung, Charles C., Pino, Rene F., & Corrigan, Robert E. *1968
Appendix N. Implementation of the RUPS System in a Total School District.
Portland, Oregon, Northwest Regional Educational Laboratory. *ED 026 319

This appendix contains an outline for the implementation of the Research Utilization and Problem Solving (RUPS) system. RUPS is an instructional system for an inservice program designed to provide the needed competencies for an entire staff to engage in systems analysis and synthesis procedures prior to assessing educational needs, and to develop curricula to meet the identified needs.

Katz, Elihu *1957
The Two-Step Flow of Communication: An Up-to-Date Report on an Hypothesis.
Public Opinion Quarterly, 21:1, 61-78.

In reviewing several studies into this phenomenon, Katz indicates that considerable methodological and theoretical progress has been made. Katz sums up the opinion leader as a person similar to those whom he influences, one who may exchange his role with another in a different sphere of influence, and one who, although having greater exposure to the mass media, is still primarily affected by other people. "Thus, interpersonal relations are (1), channels of information, (2), sources of social pressure, and (3) sources of social support, and each relates interpersonal relations to decision making in a somewhat different way."

Katz, Elihu *1962
Notes on the Unit of Adoption in Diffusion Research.
Sociological Inquiry, 32:1, 3-9.

This paper "offers some preliminary thinking concerning variations in the unit of adoption of innovations. It distinguishes the individual as an adopter <a farmer using a new type of seed> from informal groups or collectivities <a community adopting the telephone> and distinguishes both of these from corporate units <a community adopting fluoridated water>."

Katz, Elihu *1963
The Diffusion of New Ideas and Practices. In Wilbur Schramm, The Science of Human Communication, New York, Basic Books, Inc.

In a thorough review of diffusion research and theory, Katz traces the evolution of such work beginning with the "hypodermic needle theory" of mass communication and following it through studies in anthropology and rural sociology culminating with such recent concerns as the unit of adoption.

Katz, Elihu *1960
Communication Research and the Image of Society: Convergence of Two Traditions.
American Journal of Sociology, 65:5, 435-440.

"When decision making is broken down into phases... the mass media appear relatively more influential in the early informational phases, whereas personal influences are more effective in the later phases... The tendency in both traditions (communications research and rural sociology) is no longer to look at the media as competitive but, rather, as complimentary by virtue of their function in various phases of an individual's decision."

Katz, Elihu *1965
Diffusion of Innovation. In Donald E. Payne (Editor), The Obstinate Audience, Ann Arbor, Michigan, Foundation for Research on Human Behavior.

Katz explains that the focus of interest in studying innovations has shifted from the mass media to decision-making and interpersonal channels of communication. He then sets forth a scheme by which studies of innovation may be analyzed: "diffusion research is the study of the adoption of an item of over time by units of adoption linked together by channels of communication, social structure and a system of values."

Katz, Elihu *1969
The Social Itinerary of Technical Change: Two Studies On The Diffusion of Innovation. In Walter G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

Katz compares one of the classic studies in rural sociology on the dissemination of hybrid seed corn by Ryan and Gross and the study of drug diffusion by Coleman, Katz, and Menzel. The findings of the two studies relating to rate of diffusion, extent of first use, channels of information and influence, communications behavior of early and late adopters, and other differences between early and late adopters, are listed side by side for comparison.

Katz, Elihu & Lazarsfeld, Paul F. *1955
Personal Influence.
New York, The Free Press.

In addition to reporting on a field study of interpersonal influence, this book refocuses theoretically on the intervening variables between mass media and audience, especially the important role played by people. Supporting evidence is found for the hypothesis of a "two-step flow of communications"--messages flowing from the media to "opinion leaders" who exert influence in relaying the messages to the rest of the audience.

Katz, Elihu, Levin, Martin L., & Hamilton, Herbert *1963
Traditions of Research on the Diffusion of Innovation.
American Sociological Review, 28:2, 237-252.

"The process of diffusion is defined as the (1) acceptance, (2) over time, (3) of some specific item--an idea or practice, (4) by individuals, groups, or other adopting units, linked to (5) specific channels of communication, (6) to a social structure, and (7) to a given system of values or culture. The elements of this definition are treated as an 'accounting scheme' in terms of which diffusion studies in the fields of sociology, anthropology, rural sociology, mass communications, etc., are reviewed and problems of research and design are explicated."

Kelman, Herbert C. *1969
Processes of Opinion Change. In Warren G. Bennis, Kenneth D. Benne, and Robert Chin, The Planning of Change (see main entry).

Changes in attitude and actions produced by social influence may occur at different "levels". These can be distinguished in "three processes of social influence <compliance, identification, and internalization>, each characterized by a distinct set of antecedent and a distinct set of consequent conditions." "Compliance can be said to occur when an individual accepts influence from another person...because he hopes to achieve a favorable reaction from the other." "Identification can be said to occur when an individual adopts behavior derived from another person...because this behavior is associated with a satisfying self-defining relationship to this person." "Internalization can be said to occur when an individual accepts influence because the induced behavior is congruent with his value system."

Klapper, Joseph T. *1960
The Effects of Mass Communication.
New York, The Free Press.

Klapper presents the findings of a full literature search into the research on "the social and psychological effects of mass communications." The effects of specific types of media material (violence, escapist fare, etc.) and persuasive messages are covered. Three types of effects of persuasive mass communication are discussed: reinforcement, creation of opinion on new issues, and conversion.

Kochen, Manfred *1969
Referential Consulting Networks.
Washington, D.C., National Science Foundation.
*ED 027 923

"In this paper we stress...an expanded scope and depth for reference librarianship." The paper proposes the concept of a network of consultants to help people obtain answers to day-to-day questions for which answers are known.

Kohl, John W. *1966
Adoption Stages and Perceptions of Characteristics of Educational Innovations.
Eugene, University of Oregon (Unpublished Dissertation).

"The purpose of this study is twofold. The first is to determine the adoption status of seven educational innovations in relation to the independent variables: <school size, cost per pupil, post high school education, etc>... The second is to relate each superintendent's perceptions of the importance of each characteristic of the innovations to the stage of the adoption process that he is at."

Kurland, Norman D. & Miller, Richard I. *1966
Selected and Annotated Bibliography on the Processes of Change.
New York, State Education Department and
Lexington, University of Kentucky. *ED 023 025

More than 170 entries in this annotated bibliography focus on the processes of change, and deal with educational change, social and cultural change, diffusion and adoption, group dynamics, power structure, administration, and manpower development in developing nations.

Larsen, Otto (Editor) *1962
Sociological Inquiry, 32:1.

This issue features articles on information, influence, and innovation. See Back; Garabedian and Dodd; Katz; Rogers and Havens; and Wager.

Lazarsfeld, Paul F., Berelson, Bernard, & Gaudet, Hazel *1948
The People's Choice.
New York, Columbia University Press.

This classic study in communication research investigates the communication channels which operate during an election campaign. Its two major findings are that despite the number of mass media messages regarding the election aimed at the mass audience, relatively few individuals changed their minds during the course of the campaign, and of those who did most attributed their change to interpersonal communication. This book served to focus communication research upon the channels that were found to be influential in the creation and changing of attitudes.

Leeper, Robert R. (Editor) *1965
Strategy for Curriculum Change.
Washington, D.C., Association for Supervision and Curriculum Development.

This is a published collection of papers presented at the ASCD Seminar on Strategy for Curriculum Change held in January of 1965 in New Orleans, Louisiana. See Lionberger, Lippitt, and Wiles.

Lewin, Kurt *1958
Group Decision and Social Change. In Eleanor E. Maccoby, Theodore M. Newcomb and Eugene L. Hartley, Readings in Social Psychology, Third Edition, New York, Holt, Rinehart and Winston, Inc.

The importance of social channels, gates, and gatekeepers is emphasized in reporting on three experiments in which group decisions are shown to be more effective than either lectures or individual instruction in bringing about social change.

Likert, Rensis & Lippitt, Ronald *1953
The Utilization of Social Science. In Leon Festinger and Daniel Katz, Research Methods in the Behavioral Sciences. New York, Dryden Press.

"In this chapter we are interested primarily in ways in which social practitioners and all citizens can utilize the resources of social psychology to improve personal insight, policy-making, program planning, and individual and group action." Two types of research utilization situations exist: "(1) where there is a desire to apply scientific knowledge discovered elsewhere to the solution of a present problem; and (2) where there is a desire to apply research procedures directly to help solve the present problem."

Lin, Nan *1966
Innovation Internalization in a Formal Organization.
East Lansing, Michigan State University (Unpublished Dissertation).

Focusing on formal organizations, Lin expands upon the existing paradigm of innovation dissemination and diffusion, seeking better understanding of the internalization of innovative ideas. Compliant behavior causing innovation awareness or innovation adoptive behavior renders such actions meaningless. "Three general areas: formal leadership, interaction of formal and informal opinion leadership, and work group interaction" were studied in a field study in three high schools. None of the eleven tested hypotheses was significant.

Lin, Nan *1968
Innovative Methods for Studying Innovation in Education.
In Everett M. Rogers, Research Implications for Educational Diffusion (see main entry).

"The purposes of this paper are (1) to examine the research methods generally utilized in diffusion research and (2) to suggest certain research methods which may help to provide us with better understanding of the diffusion process." In the ensuing discussion, Lin covers field experimentation, computer simulation, and structural analysis, and focuses on group structure and innovation diffusion within schools.

Lionberger, Herbert F. *1960
Adoption of New Ideas and Practices.
Ames, Iowa, The Iowa State University Press.

Over 100 studies are reviewed and "a brief but comprehensive summary of the research findings presented from the

point of view of how they may be applied in educational and informational programs." "Major research achievements of the studies considered include (a) introduction and use of the stage concept of diffusion, (b) definition and description of the adoption pattern, (c) definitions of the role and functions of change agents, information sources, and media in adoption, and (d) introduction and use of sociometric methods in the study of interpersonal patterns of communication and influence."

Lionberger, Herbert F. *1965
Diffusion of Innovations in Agricultural Research and in Schools. In Robert R. Leeper, Strategy for Curriculum Change (see main entry).

"...social system limitations to the application of diffusion research findings in agriculture to education" are enumerated under the headings of "nature of adoption units", "differences in the development, legitimation, and diffusion systems for innovations", "adoption clienteles", "legitimation of ideas and practices", and "differences in the incentive sytems". Also, two limitations in agricultural diffusion research are noted, the infrequency with which diffusion processes and processes of social change have been operationalized as similar in research and the unfounded assumption that adopters function rationally.

Lionberger, Herbert F. *1964
The Diffusion Research Tradition in Rural Sociology and its Relation to Implemented Change in Public School Systems. in Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

Lionberger outlines some of the "major research achievements in the agricultural diffusion research tradition", and discusses their implications for action in the educational context.

Lippitt, Ronald *1965
Roles and Processes in Curriculum Development and Change. In Robert R. Leeper, Strategy for Curriculum Change (see main entry).

Lippitt discusses (1) "special features of the problem of change in the educational establishment", (2) five models of curriculum change process--expert knowledge retrieval, curricular innovation identification, action research collaboration, experimental feasibility testing, and information diffusion, (3) Four system levels--classroom, building, school system, and educational community--as

potential targets for change involvement, and (4) the future of "some of the dimensions of ferment in the educational establishment ...as they are probably related to educational change."

Lippitt, Ronald *1967
Improving the Socialization Process.
Washington, D.C., National Training Laboratories.
*ED 012 512

"This paper attempts to look at some of the crucial questions of planned change in the socialization process, focusing on the following aspects of the problem:" the components of the socialization community, the roles and problems of change agents, and special problems of change.

Lippitt, Ronald et al *1967
The Teacher as Innovator, Seeker, and Sharer of New Practices. In Richard I. Miller, Perspectives on Educational Change (see main entry).

Written in the middle of some action research at the Center for Research on the Utilization of Scientific Knowledge at Michigan, Lippitt and his associates conceptualize the "factors relevant to the facilitation and hindrance of innovation and diffusion of teaching practices." They are (1) characteristics of the practice, (2) physical and temporal arrangements, (3) peer and authority relations, and (4) personal attitudes. The important distinction between innovation and adoption is pointed out and relevant research findings cited.

Lippitt, Ronald *1969
The Process of Utilization of Social Research to Improve Social Practice. In Walter G. Bennis, Kenneth D. Benne and Robert Chin, The Planning of Change (see main entry).

"I want especially in this paper to distinguish between three patterns of research utilization which bring into the 'science consumer system' new knowledge...in the first pattern, the scientist consultant in collaboration with a practitioner...the second pattern entails conducting an extra-system feasibility test of a design procedure to meet some social practice issue...the third pattern is the process of identifying creative innovations invented by practitioners someplace else." Three other patterns of utilization of scientific resources are discussed which differ from the above in that they emphasize the local development of research knowledge.

One is an external scientific organization collecting diagnostic data, the second has such an organization supervising and assisting in self study and data collection, and the third is quite different and is concerned with training practitioners to utilize the knowledge resource systems.

Lippitt, Ronald, Benne, Kenneth, & Havelock, Ronald *1966
A Comparative Analysis of the Research Utilization Process.
Chicago, American Educational Research Association.
*ED 012 503

Barriers to effective research utilization in education and the implications of research utilization in agriculture, medicine, public health, and industry are discussed. Six unique characteristics of educational research and its dissemination which make the problem of achieving research utilization in this field different from those others are discussed.

Lippitt, Ronald & Havelock, Ronald *1968
Needed Research on Research Utilization. In Everett Rogers, Research Implications for Educational Diffusion (see main entry).

In a two-part paper, the authors discuss the processes of linkage in research utilization, and, in turn, stress the need for research to focus on linkages internal and external to the client or client system. Lippitt, in discussing internal linkage, concentrates on entry conditions and internal processes after the entry of new knowledge. Havelock, turning to external linkage, distinguishes four types: the linking person, the linking organization, the temporary linking system, and the permanent linking system.

Lippitt, Ronald, Watson, Jeanne, & Westley, Bruce *1958
The Dynamics of Planned Change.
New York, Harcourt, Brace.

After defining the terms planned change, professional change agent, and four types of client systems, namely "the individual personality, the face to face group, the organization, and the community," the authors concern themselves with the diagnostic task of the change agent, the concept that change passes through universal phases, the helping relationship, and the helping methods used by change agents in the different phases.

Lyons, J. Daniel *1966
Factors Influencing Utilization of Research Findings in Institutional Change.
Alexandria, Virginia, George Washington University, Human Resources Research Office. *ED 012 975

Exploratory research at the Human Resources Research Office revealed the following six factors as being operant in Zetterberg's "'something else' which results in institutional change in policy or procedures": timeliness, commanding interest, product engineering, concreteness, zeitgeist, and personal interest.

Machlup, Fritz *1962
The Production and Distribution of Knowledge in the United States.
Princeton, New Jersey, Princeton University Press.

The production of knowledge is defined as "any activity by which someone learns of something he has not known before even if others have." Thirty industries producing knowledge are examined and their growth rates compared. Machlup also examines the gradual change in the occupational composition of the labor force, one showing "a continuous increase in 'knowledge-producing' workers and a relative decline in what used to be called 'productive labor.'" His longest chapter deals with education, and concludes with a proposal for school reform.

Marcus, Alan S. & Bauer, Raymond A. *1964
Yes: There Are Generalized Opinion Leaders.
Public Opinion Quarterly, 28:4, 628-632.

The authors call into question some of the computations used in Katz and Lazarsfeld's study of personal influence. Using corrected calculations, the authors find an overoccurence of three area leadership, while such is not the case with two-area-only leadership. They conclude "that generalized opinion leadership tends to be an all or nothing phenomenon."

Marquis, Donald G. & Allen, Thomas J. *1966
Communication Patterns in Applied Technology.
American Psychologist, 21:11, 1052-1060.

Science, technology and utilization are graphically portrayed in a model as "three parallel streams with the typical paths for communication between them." Communication in technology and two factors which make it different from communication at the scientific level, namely

the constraints imposed by technological organizations and technological literature, are discussed. Finally, the authors support Derek Price's hypothesis that science and technology are indeed quite independent of one another.

McClelland, William A. *1968
The Process of Effecting Change.
Alexandria, Virginia, George Washington University, Human Resources Research Office. *ED 025 038

McClelland reviews "some of the salient characteristics of the change process", and then presents "two pre-models of change in an attempt to conceptualize or schematize the process."

McClelland, David C. *1969
The Role of Achievement Orientation in the Transfer of Technology. In William H. Gruber and Donald G. Marquis, Factors in the Transfer of Technology (see main entry).

McClelland asserts, and provides some evidence to support the idea, that the need for achievement "may be related to the rate of transfer of technology." He distinguishes between the "professions" and "business", but, "for the transfer of technology, the professions contrast structurally again and again with business as being less achievement oriented in the narrow sense of concern with efficiency of performance over all other goals."

McLaughlin, Curtis P. & Penchansky, Roy *1965
Diffusion of Innovation in Medicine: A Problem of Continuing Medical Education.
Journal of Medical Education, 40, 437-447.

The authors review the diffusion of innovation literature as it pertains to the practice of medicine. They point out that until now most plans for continuing education of physicians require interruption of their practice and urge deeper consideration of continuing education via channels which don't require such interruption.

McVoy, Edgar C. *1940
Patterns of Diffusion in the United States.
American Sociological Review, 5:2, 219-227.

In studying the diffusion of the city manager plan of government, McVoy arrives at the following general conclusions: "any of the principles of diffusion developed by anthropologists from studies of primitive tribes apply to present day United States, certain points within the United States serve as centers of innovation, and that these innovations tend to radiate...in concentric radiance around the centers." Also, certain factors such as communication and transportation facilities, urbanization, wealth, educational and "cultural" level influence this radiation.

Meierhenry, Wesley C. (Editor) *1964
Media and Educational Innovation: A Symposium on Identifying Techniques and Principles for Gaining Acceptance of Research Results of Use of Newer Media in Education. Preliminary Report.
Lincoln, University of Nebraska. *ED 003 134

These are papers and reactions delivered at a symposium on identifying techniques and principles for gaining acceptance of research results of use of newer media in education held at the University of Nebraska in 1964. See Brickell, Chin, Crow, Edling, Gallaher, Lionberger, Meierhenry, and Pierce.

Meierhenry, Wesley C. *1964
Variables Related to Innovation. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry)

"This chapter deals with elements which have been taken from the previous chapters and discussion at the symposium." Meierhenry draws generalizations under the headings of (1) ways of perceiving innovation, (2) critical aspects of innovation, (3) innovators and adopters, (4) the stage concept of innovation, (5) special problems of innovation in education, and (6) the role of media in innovation.

Menzel, Herbert *1964
The Information Needs of Current Scientific Research. The Library Quarterly, 34:1, 4-19.

"Behind the discontent with the streamlining and mechanization of science information services...lies the recognition of three fundamental facts about the flow of scientific information. First is that of the multiplicity of science-information functions,...the

second is that of the importance of informal and personal communications...and the third is that the information needs of scientists are themselves a topic requiring investigation."

Menzel, Herbert *1966
Scientific Communications: Five Themes From Social Science Research.
American Psychologist, 21:11, 999-1004.

Menzel's five themes are: (1) acts of scientific communication constitute a system, (2) several channels may act synergistically to bring about the effective transmission of a message, (3) informal and unplanned communication plays a crucial role in the scientific information system, (4) scientists constitute publics, and (5) science information systems serve multiple functions.

Miles, Matthew B. *1964
Educational Innovation: The Nature of the Problem. In Matthew B. Miles, Innovation in Education (see main entry).

In this first chapter of his book, Miles sets the tone with a discussion of the accelerated diffusion rate in education in the sixties and possible reasons for it. He defines the terms which are used repeatedly and presents a typology of change strategies.

Miles, Matthew B. (Editor) *1964
Innovation in Education.
New York, Columbia University Teachers College Bureau of Publications.

This is a published collection of papers from members of a faculty seminar in 1960 at the Horace Mann-Lincoln Institute of School Experimentation on innovation and change processes in American education and other invited contributions. See Brickell; Carlson; Eichholz and Rogers; Fox and Lippitt; Miles (2); Mort; and Wayland.

Miles, Matthew B. *1964
Innovation in Education: Some Generalizations. In Matthew B. Miles, Innovation in Education (see main entry).

In the final chapter Miles "reviews generalizations made explicitly or implicitly in the preceeding chapters, with intermittent commentary." Groupings are: Educational systems, The context, The innovation itself, Innovative persons or groups, States of the relevant systems prior to and during the change process, and Eventual fate of the innovations which were advocated.

Miles, Matthew B. *1964
Planned Change and Organizational Health: Figure and Ground. In Richard O. Carlson, Change Process in The Public Schools (see main entry).

This paper focuses attention on the innovative organization rather than the innovative individual. Important in this approach is the notion of organization health which Miles sees as "a set of fairly durable second-order system properties", such as goal focus, communication adequacy, resource utilization, cohesiveness, innovativeness, morale, etc.

Miles, Matthew B. *1966
Training For Research Utilization.
AERA/PDK Joint Study Group on the Training of Research Workers for Education (Unpublished Paper).
*ED 012 103

Miles takes the position in this paper that "effort needs to be devoted to mastery of research utilization processes and skills for two basic populations: the utilization specialist sited in a wide variety of field settings and the budding researcher as he moves through his graduate training."

Miles, Matthew B. *1967
Some Properties of Schools as Social Systems.
Washington, D.C., National Training Laboratories.
*ED 012 511

Miles sees schools as social systems, and analyzes their features and essential properties as entry points for change. He discusses at length the implications of the analysis for research and action, and suggests mechanisms for correcting dysfunctional aspects of schools.

Miles, Matthew B., et al. *1969
The Consequence of Survey Feedback: Theory and Evaluation. In Walter G. Bennis, Kenneth D. Benne and Robert Chin, The Planning of Change (see main entry).

"We have suggested that the three primary components of survey feedback (namely, data, meetings, and process-analysis), lead to attention to an acceptance of the data, liking of the family group and its activities, clarification of own and other's position, practice of new behaviors, and development of norms which support open, collaborative problem-solving." The research reported herein, however, provides relatively unspectacular data for several suggested reasons.

Miller, Richard I. *1967
An Overview of Educational Change. In Richard I. Miller, Perspectives on Educational Change (see main entry).

Factors affecting educational change are discussed. Four general factors (the democratic way, equality, material progress, and belief in the importance of education) and four specific factors (the Cold War, growth of the knowledge industry, pressures from outside the realm of professional education, and advances in the behavioral sciences) facilitating change are enumerated. Three general factors (traditionalism, laziness, and fear and insecurity) and seven more specific educational factors (the rut of experience, administrative reticence, educational bureaucracy, insufficient finances, community indifference and resistance, lack of knowledge about the change process, and inadequate teacher education programs) inhibiting change are also included.

Miller, Richard I. (Editor) *1967
Perspectives on Educational Change.
New York, Appleton-Century-Crofts.

Sixteen chapters focusing on the process of change comprise this book. See Bessent and Moore; Brickell; Heathers; Lippit et al; Miller (2); and Trump.

Miller, Richard I. *1967
Some Observations and Suggestions. In Richard I. Miller, Perspectives on Educational Change (see main entry).

"This chapter attempts to pull together some points mentioned in various chapters--what might be considered reoccurring themes--and include an additional point or two. Topics to be discussed are: the role of the classroom teacher, problems of communication, strategies for change, developing change agents, evaluation of changes, and an inventory of 'change proneness'."

Miller, Richard I. *1968
Implications for Practice from Research on Educational Change. In Everett Rogers, Research Implications for Educational Diffusion (see main entry).

After discussing "three innovative thrusts" (PACE, the regional labs, and R & D centers), Miller discusses needed research in institutional change on the "societal, regional, and state dimensions of the change process." His experiences with a statewide systems analysis of public schools (Kentucky Quality Education) as well as a promising new development for educational research--the intermediate (or county) unit--and a new proposal--"The 'Experimental Schools Act'"--are also included.

Moore, Samuel & Mizuba, Kiyoto *1969
Innovation Diffusion: A Study In Credibility.
Educational Forum, 33:2, 181-185. *EJ 000 301

Several major studies of innovation in rural sociology, anthropology, and sociology are reviewed. The importance of credibility at two levels is stressed: demonstrable credibility of the innovation itself and credibility of the innovator or change agent.

Mort, Paul R. *1964
Studies in Educational Innovation From the Institute of Administrative Research: An Overview. In Matthew B. Miles, Innovation in Education (see main entry).

The early studies of "adaption" in public school systems are reviewed, their finding considered, and emerging generalizations listed. Legal, organizational, and administrative considerations comprise the main thrust of this early work.

Mosher, Edith K. *1969
What About the School Research Office? A Staff Report.
Berkeley, California, Far West Laboratory for Educational Research and Development.
*ED 026 745

Using interviews, survey techniques, and a literature survey, data relating to the school research office was collected. Such an office was found capable of locating, defining, and collecting data relevant to the solution of school system problems. However, with uncooperative administrations not recognizing the potential of such an office, its use was found to be extremely limited.

Nussel, Edward J. & Johnson, Mildred *1969
Who Obstructs Innovation? A Study of Teacher Perception of Possible Obstacles to Innovation.
Journal of Secondary Education, 44:1 3-11.
*EJ 000 532

A case study of a new and innovative teacher was sent to a sample of teachers who were asked to rank order the sources from which they thought concern over the new teacher's innovativeness might emanate. Teaching colleagues and principals were ranked the highest.

Overs, Robert P. & Trotter, Ann B. *1967
Disseminating and Using Research Reports.
Milwaukee, Wisconsin (Unpublished Paper).
*ED 021 277

The authors offer some practical guidelines in four areas of improving research findings: filing and retrieval problems; level and styles of writing, listing, abstracting, summarizing, and reconceptualizing; profiling the average practitioner-consumers; and leveling attitudinal barriers.

Paisley, William J. *1965
The Flow of (Behavioral) Science Information. A Review of Research Literature.
Stanford, California, Stanford University Institute for Communication Research.

In examining the literature "dealing with information-gathering and -disseminating behavior of scientists", this review focuses on "use studies" in an attempt to "identify objectives and methods shared by investigators in the field", "two studies deemed by the reviewer to be milestones on the road toward understanding scientific information flow", "network studies which are concerned with interrelationships among...<communication> artifacts without reference to the behavior of individual scientists", and, finally, the flow of scientific information to the public.

Paisley, William J. *1968
As We May Think, Information Systems Do Not.
San Francisco, American Psychological Association.

Researchers make little or no use of formal information systems. This is due not so much to "information apathy" on their part as to faults inherent in information services as a whole. The solution proposed is an information specialist who is a link between a research effort and a mechanized information service. It is predicted

that this approach will accelarate research work as much as six times, and that this will be the trend in years to come.

Paisley, William J. *1969
Perspectives on the Utilization of Knowledge.
Los Angeles, American Educational Research Association.

A great deal of knowledge acquired through scientific research does not get through to the people who are in a position to use it. Knowledge is communicated through messages which may do one or all of three things: inform, motivate, or facilitate. The dissemination of a message is intertwined with the character of channels, knowledge producers, middlemen, audiences, and systems, and there are ten stages through which a message must pass to reach its ultimate effectiveness: awareness, attention, exposure, comprehension, retention, motivation, pre-trial evaluation, trial, post-trial evaluation, and complete adoption. These factors must be considered if messages are to get quickly to the people who can utilize them.

Pellegrin, Roland J. *1965
The Place of Research in Planned Change. In Richard O. Carlson, Change Process in the Public Schools (see main entry).

Pellegrin maintains that the scientific method is the only reliable source of knowledge for education. He then points out some of the obstacles to sound educational research, and outlines the type of research that is needed in the future. In addition to methodological rigor, he stresses the nature and importance of theory in educational research.

Pellegrin, Roland J. *1966
An Analysis of Sources and Processes of Innovation in Education.
Eugene, University of Oregon, Center for the Advanced Study of Educational Administration. *ED 010 228

Pellegrin lists ten sources of innovation in education from the classroom teacher through the scientist, and then draws some generalizations regarding change at the individual, organizational, and societal levels. He concludes by calling for some specific "revolutionary transformations in the social organization and culture of American education."

Pelz, Donald C. & Andrews, Frank M. *1966
Scientists in Organizations: Productive Climates for Research and Development.
New York, John Wiley and Sons, Inc.

"What constitutes a stimulating atmosphere for research and development? That was the guiding question for the six-year exploration described in this book." "This book is one of the first major studies to examine the relationship between a scientist's performance and the organization of his laboratory." The chapter headings (freedom, communication, diversity, dedication, motivations, satisfaction, similarity, creativity, age, age and climate, coordination, and groups) indicate the foci of this study.

Perry, Astor, et al. *1967
The Adoption Process: S Curve or J Curve?
Rural Sociology, 32:2, 220-222.

The authors present some data that question the S curve of diffusion, that is, slow adoption at first, then increasing adoption at an increasing rate until approximately 1/2 of the adoptors have accepted the change, and then continued adoption at a slower rate. Their data points to a J curve, and the authors question whether "perhaps in American society, at least, innovation is rapidly becoming the norm, and the diffusion curve will soon more closely approximate the J curve rather than the S curve."

Pierce, Truman M. *1964
Educational Change and the Role of Media. In Wesley C. Meierhenry, Media and Educational Innovation (see main entry).

"School systems differ greatly in their capacity and willingness to adopt new practices in education. Measureable and objective factors in the community which seem to account for these differences are wealth, size, occupations, and level of educational achievement." The media has two tasks in the adoption of new ideas in education. One is to help the public develop a better understanding of the new ideas and the second is to "accelerate the rate at which school systems take on new practices."

Price, William J. & Bass, Lawrence W. *1969
Scientific Research and the Innovative Process.
Science, 164, 802-806.

"The function of basic research in the innovative process can often be described as meaningful dialogue between the scientific and the technological communities. The entrepreneurs for the innovative process usually belong to

the latter sector, while the persons intimately familiar with the necessary scientific understanding are often part of the former." "...utilization of new scientific knowledge in bringing about innovation increases in proportion to the intensity and effectiveness of the collaboration between the generators and users of information... often called 'coupling'".

Rainey, Robert F. *1969
Employability of Research Specialists.
Los Angeles, American Educational Research Association. *ED 028 119

"I would like to make two points in this presentation. First, new schemes and tactics are needed for providing the basis for educational change. In these schemes, entry points into schools and systems for data gathering will have to be found. Second, the term 'employability'" and the training of research specialists needs to be defined.

Ribble, Robert B. *1966
The Effect of Planned Change on the Classroom.
Theory into Practice, 5:1, 41-45.

Two views of the roles and functions of elements in the educational setting are presented. "What I will call the 'administrative view'...places the expertise above curriculum innovation with the instructional leaders." "What I will call the 'classroom view'...assumes that knowledge and understanding of curriculum are held by teachers and students." "Teacher involvement is the key to the effectiveness of innovations; there are no short cuts for instant involvement."

Richland, Malcolm *1965
Traveling Seminar and Conference for the Implementation of Educational Innovations.
Santa Monica, California, System Development Corporation. *ED 003 126

School administrators and teachers were taken on sight visits to schools having successful innovative programs. Research showed that the traveling seminar and follow-up conference was a successful dissemination method for educational innovation, and recommendations were made for incorporating such a program into future Office of Education dissemination programs.

Rogers, Everett M. *1962
Diffusion of Innovations.
New York, The Free Press.

This is the comprehensive work on how innovations ("ideas perceived as new by the individual") are diffused ("spread over time in a social system from source of invention to ultimate users or adopters"). Adoption is the mental process through which an individual passes after first hearing of an innovation through his decision to make full and continued use of it. This process is broken down into five stages: awareness, interest, evaluation, trial, and adoption. Characteristics and types of innovations and adopters and the roles of opinion leaders and change agents in several research traditions including education are discussed.

Rogers, Everett M. *1962
How Research Can Improve Practice. A Case Study.
Theory into Practice, 1:2, 89-93.

After briefly sketching a history of the Agricultural Extension Service, Rogers shows how some findings from early diffusion research have been beneficial to the functioning of county extension agents.

Rogers, Everett M. *1964
What Are Innovators Like? In Richard O. Carlson, Change Process in the Public Schools (see main entry).

Innovators are young, have high social status, use impersonal sources of information, are cosmopolite, exert opinion leadership, and are viewed as deviants by themselves and their peers. Rodgers draws some implications from these findings for school administrators.

Rogers, Everett M. (Editor) *1968
Research Implications for Educational Diffusion: Major Papers Presented at the National Conference on Diffusion of Educational Ideas.
East Lansing, Michigan State University, Michigan Vocational Education Research Coordinating Unit.
*ED 026 535

This is the published report of a National Conference on Diffusion of Educational Ideas held at Michigan State University on March 26-28, 1968. See Carlson; Lin; Lippitt and Havelock; Miller; and Rogers and Jain.

Rogers, Everett M. & Havens, A. Eugene *1962
Predicting Innovativeness.
Sociological Inquiry, 32:1, 34-42.

The prediction of which individuals in a group will be the first to adopt a new idea or practice has great utility for research organizations, commercial enterprises, change agents, and theorists who wish to understand the independent factors in innovation more clearly. "Innovativeness is the degree to which individuals accept new ideas relatively earlier than others in a social system." The authors suggest the use of multiple correlation or a configurational approach to the task of predicting innovativeness.

Rogers, Everett M. & Jain, Nemi C. *1968
Needed Research on Diffusion Within Educational Organizations. In Everett M. Rogers, Research Implications for Educational Diffusion (see main entry).

In this paper, Rogers and Jain offer methodological approaches (such as relational analysis) to the study of diffusion within organizations and potential conceptual emphases (such as greater attention to structural factors as system variables) in innovation diffusion.

Rollins, Sidney P. & Charters, W. W., Jr. *1965
The Diffusion of Information Within Secondary School Staffs.
Journal of Social Psychology, 65:1, 167-178.

Communication among teachers was measured sociometrically, and two hypotheses were tested. The first, "the greater the saturation of communication contacts within the secondary-school staff, the greater will be the diffusion of an item of information transmitted informally from principal to teachers in a given period of time," was rejected. The second, "the greater the number of communication contacts (or 'span') of a given staff member to whom information is transmitted by the principal, the greater the number of staff members to whom he will relay it," was supported.

Rosenbloom, Richard S. & Wolek, Francis W. *1967
Technology, Information, and Organization; Information Transfer in Industrial R & D.
Boston, Harvard University, Graduate School of Business Administration.

Extensive survey data show that information transfer is "related to aspects of the goals of the work to which the information was applied." "When the focus of work is on operational goals, local and informal sources account for most instances of information transfer. Formal and more distant sources are the most common means used when the focus is on 'professional' goals, i.e., those concerned with contributions to knowledge."

Sabrosky, Laurel K. et al *1966
Distribution and Use of Selected Civil Defense Publications. A Study Made in Twenty-Five Counties in Five States.
Washington, D.C., U.S. Department of Agriculture, Federal Extension Service. *ED 014 019

"The purpose of this study was to evaluate the use of publications as a means of implementing the objectives of the Civil Defense program." Findings from counties of Arkansas, Texas, Vermont, Wisconsin, and Washington suggested that solicited and unsolicited publications would prove equally useful, and that the main effort should be to get publications to the people, regardless of method.

Schick, Franck L. *1962
Automated Educational Research Information.
Theory into Practice, 1:2, 94-97.

A description of an early Office of Education pilot project into data storage and retrieval at Western Reserve University is described. This project is seen as being the forerunner of the use of computers in educational literature storage and retrieval.

Schmuck, Richard *1967
Social Psychological Factors in Knowledge Utilization as Applied to Educational Administration. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

"Three problem areas in connecting knowledge to practice in educational administration can be described," the social relationship between the behavioral science researcher and the educational administrator, the psychological issue of linking knowledge and practice within the administrator's personal framework, and the administrator's making effective use of new practices by matching them up with appropriate situations. "In building psychological linkages between knowledge and practice within the administrator, the administrator's values and goals should be more clearly and operationally defined."

Schon, Donald A. *1966
The Fear of Innovation.
International Science and Technology, 59, 70-78.

"The modern industrial corporation is required to undertake technological change, change that is destructive to the corporation's stable state. The corporation is ambivalent to innovation: on the one hand, it believes itself to be committed to it--it believes that technological innovation is essential to corporate growth--but on the other hand, it fears innovation and tries, in various ways, to prevent it."

Sieber, Sam D. *1967
Organizational Resistances to Innovative Roles in Educational Organizations.
New York, Columbia University, Bureau of Applied Social Research. *ED 015 536

The vulnerability of schools, the quasi-professionalism and goal-diffusiveness of teachers, and formal control within the educational organization are variables which severely limit innovative behavior in schools. Sieber conceptualizes a model which incorporates these variables and a "status occupant" strategy for inducing educational change.

Sieber, Sam D. *1968
Organizational Influences on Innovative Roles. In Terry L. Eidell and Joanne M. Kitchel, Knowledge Production and Utilization in Educational Administration (see main entry).

"We view education then, as a vulnerable formal organization with diffuse goals whose functionaries are quasi-professionals and which is devoted to processing people within its boundaries." Selber says that there are three classical strategies in educational change, the rational man strategy, the cooperator strategy, and the powerless participant strategy. "The three strategies fail because men are not wholly rational, cooperative, nor powerless." Sieber proposes a new strategy which takes into consideration the individual's situation, and calls it the status occupant strategy.

Sieber, Sam D. & Lazarsfeld, Paul F. *1966
The Organization of Educational Research in the United States.

New York, Columbia University, Bureau of Applied Social Research. *ED 010 276

The chief technical problem of this study was to measure the numerous social conditions which might conceivably impinge on the production of research and of researchers by graduate schools of education. The techniques employed (including questionnaire surveys, field interviews and observations, documentary analysis of solicited materials, content analyses, and secondary analyses of survey data from related studies) are examined in detail.

Star, Shirley A. & Hughes, Helen MacGill *1950
Report on an Educational Campaign: The Cincinnati Plan for the United Nations.
American Journal of Sociology, 55:4, 389-400.

In a classic survey of public opinion campaigns, awareness of and attitudes toward the United Nations were studied in Cinncinati. Interest was found to be a necessary condition for the absorption of information, and it was also found that "information must be functional to be heeded at all."

Stuart, Michael & Dudley, Charles *1967
Bibliography on Organization and Innovation.
Eugene, University of Oregon. Center for the Advanced Study of Educational Administration. *ED 019 722

"The purpose of the bibliography is to provide rapid preliminary access to 'the literature' on educational innovation from several broad social scientific perspectives." "This bibliography on 'innovation' is divided into five main categories: (A) social structure, social psychology, and social organization. (B) social structure, social psychology, and social organization in education. (C) innovation and change in social structure, social psychology, and social organization. (D) innovation and change in education, and (E) bibliographies."

Trump, J. Lloyd *1967
Influencing Change at the Secondary Level. In Richard I. Miller, Perspectives on Educational Change (see main entry).

Trump classifies all change as falling into four categories, changes which take away, add to, bolster, or basic changes.

He sees five steps as being necessary procedures for instituting change, and enumerates eight responsibilities of local school leadership in utilizing their staff to bring about improvement in secondary school education.

Wager, L. Wesley *1962
Channels of Interpersonal and Mass Communication in an Organizational Settting: Studying the Diffusion of Information About a Unique Organizational Change.
Sociological Inquiry, 32:1, 88-107.

"This paper is concerned with the diffusion of information about a unique and major change in a large and complex organization." It shows "how the intertwining processes of communication in a complex organization initially compliment one another in the transformation of information" and produce "an uneven flow of information throughout the organization."

Wayland, Sloan R. *1964
Structural Features of American Education as Basic Factors in Innovation. In Matthew B. Miles, Innovation in Education (see main entry).

Four types of structures are differentiated: formal organizations, ancillary structures, autonomous groups, and institutions. "Particular attention is given to the dominant role of ancillary structures in the American <educational> system, as a means for meeting problems handled in other societies by the formal structure."

Weiss, Walter *1967
Effects of the Mass Media of Communication. In Gardner Lindzey and Elliot Aronson, The Handbook of Social Psychology, Revised Edition, Cambridge, Massachusetts, Addison-Wesley.

This relatively recent work is a comprehensive review and summary of the non-experimental research literature on mass media effects. Its bibliography of over 350 entries includes all of the relevant work in the area of mass media research.

Wiles, Kimball *1965
Contrasts in Strategies of Change. In Robert R. Leeper, Strategy for Curriculum Change (see main entry).

Previous to 1957, "it was believed that the best educational program would be produced by the development of modifications in the curriculum by individual teachers"--called the "pragmatic approach". "Since 1957 there has been a shift on the part of many to a belief in a strategy of directed change in which certain persons, many times outside of public education, make an assumption that they know the change that is desirable and then use the best strategy they can devise to bring about the desired change." Assumptions underlying both approaches are examined.

Willower, Donald J. *1963
Barriers to Change in Educational Organizations.
Theory into Practice, 2:5, 257-263.

Focusing primarily on the organizational structure of a school, Willower considers both the sources and the forms of resistance to change.

Winick, Charles *1961
The Diffusion of an Innovation Among Physicians in a Large City.
Sociometry, 24:4, 384-396.

Research on diffusion of new drugs among doctors, notably that of Coleman, Katz, and Menzel, was carried out in communities of 100,000 people or less. Winick studies this phenomenon in a much larger metropolitan city and his findings "suggest the possibility, however, that the large-city pattern of diffusion of innovation of a new drug may be dependent on more impersonal methods of communication than is the case in a smaller community."

Wolf, Willavene (Issue Editor) *1967
Theory into Practice, 6:2.

"This issue of TIP in which most of the authorities present ways that research can be more closely related to practice reflects this present trend toward applied research and development activities in the field of educational research." See Burchinal and Guba.

Wolpert, Julian *1966
A Regional Simulation Model of Information Diffusion.
Public Opinion Quarterly, 30:4, 597-608.

"This paper presents an approach to a small-scale regional model of information diffusion, a design that is

suitable for tracing the flow of information over a relatively large area." "The process of diffusion of information is recognized as involving not only simple transmission of message units but social interaction between members of a population with diverse attitudes, motivations, and beliefs."

York, Linda J. *1968
Arrangements and Training for Effective Use of Educational R & D Information. A Literature Survey.
Berkeley, Far West Laboratory for Educational Research and Development. *ED 026 746

As part of a surveillance program of "new linkage roles and organizational arrangements in...R & D utilization functions", this report presents in tabular form some 40 "organizational arrangements which facilitate the use of R & D information within the public school setting" and 24 "personnel training programs for increasing the use of R & D information by school personnel." Attributes, locations descriptions, and evaluations of these programs are included.

A PAPER FROM

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